



Fillmore Burn Dump

SWIS #56-CR-0016

Post Closure Land Use Plan

Reviewed & Approved By:


Michael Lapraik, P.E.
City Engineer



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Executive Summary

May 2015

The County Environmental Health Department acting as the Local Enforcement Agency (LEA) on behalf of Cal Recycle (nee California Integrated Waste Management Board) inspected the former Fillmore Open Burn Dump Site on February 12, 2014. An inspection Report identifying issues of concern to the LEA was provided to the City and a meeting held on June 6, 2014 to familiarize City staff with the LEA concerns. Although it was recognized by the LEA that operation and closure of the site predated the development of the current extensive state regulations for waste disposal site closure and post closure use, the City was required to prepare and submit a post closure land use plan for the site. Reference was made to certain sections of state regulations that had to be addressed. It was noted that if the City felt certain portions were not applicable, the City should explain the reasoning it used to reach that conclusion.

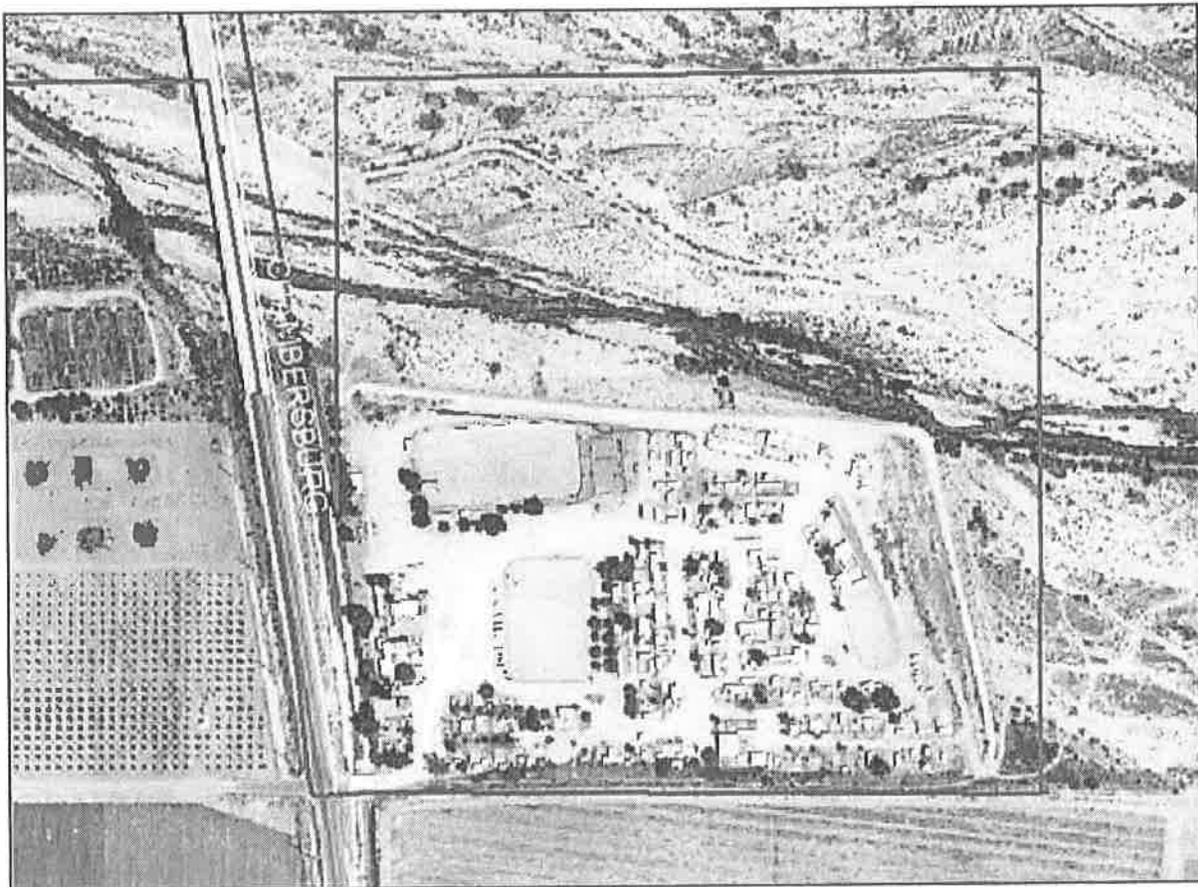
This report is the required post closure land use plan, addresses each of the concerns in the inspection report and corresponding sections of the law. Where possible, the City has eliminated correctable issues and proposes future actions aimed at preventing recurrences.

FILLMORE BURN DUMP POST CLOSURE LAND USE PLAN

1. INTRODUCTION

The Ventura County Environmental Health Division acting as the Local Enforcement Agency (LEA) on behalf of Cal Recycle inspected the Closed Fillmore Burn Dump Site on February 12, 2014 and found issues of concern to them. A copy of their inspection report and 5 photographs taken during the inspection are included in Attachment 1 to this report. Figure 1 below is an aerial view of the site and surrounding land area excerpted from a 2010 aerial photograph of the City.

Figure 1 - Former Fillmore Open Burn Dump Site



The site is located adjacent to the south bank of the Santa Clara River and east of State Route 23 (SR-23) also known as Chambersburg Road. The site is part of a large land parcel that extends into the Santa Clara River bottom owned by the City as indicated by the City Limit shown in red above. Adjacent land uses are either agricultural fields or river bottom.

A meeting between the LEA and City Officials was held in the LEA offices June 6, 2014 to identify the issues and point out the concerns. During the meeting the LEA directed and the City agreed to prepare a post closure land use plan for the site. This document sets forth the plan.

2. **SITE HISTORY**

The following information about the site is summarized from a 1991 technical report ("Final Report, Solid Waste Assessment Test" [a.k.a. SWAT Report]) prepared by Staal, Gardner & Dunne, Inc. (now part of Fugro West, Inc) for the Ventura Regional Sanitation District (VRSD). A copy of that report is in LEA files.

The exact history of the site is unknown. The site was reportedly acquired by the City in 1950. Aerial photos from 1945 suggest the presence of waste disposal trenches at the site. Following City acquisition the site was operated as an open burn dump using the trench and cover method from approximately 1950 to 1972 when the site was closed to waste disposal. All waste previously received there was diverted to other locations; the majority of the waste most likely went to the Toland Road Sanitary Landfill operated by VRSD. Starting in 1978 the City apparently leased out the site for operation of an equestrian center. Although the site was officially closed in 1972, the north side of the site has until recently (1991) been used for disposal of inert materials, street sweepings, demolition debris, plant trimmings, etc.

3. **SITE CHARACTERIZATION**

No data exist that document site construction details. No liners or leachate collection systems were constructed during the operation of the site. The cover material presumably was locally derived, most likely a mixture of sand, gravel and silt available from the river bed deposits. Specifications or grading plans for placement of the cover materials are not available.

The site is located within the 100-year flood of the Santa Clara River. In 1991, flood protection was provided by an earthen berm along the northern side of the historic waste disposal area. Apparently the berm is not an engineered structure, and was constructed from native alluvial material. The long-term stability or effectiveness of this berm is unknown. It is likely the site was inundated by the floods of 1969.

Following completion of the SWAT Report in 1991, the floods of 2005 washed away the berm on the north side of the site and exposed a portion of the waste. Ash, broken glass and rusting metal were observed, but no undecomposed organic material that could produce landfill gas was observed. The berm and an unknown quantity of material were washed away. In late-2006 a soil cement levee providing 5-year flood protection was constructed on the north and east

sides of the site with financial assistance from the Federal Emergency Management Agency (FEMA) and the Cal Recycle grants. The total cost was approximately \$1.3 million.

4. **APPLICABLE REGULATIONS**

Following the June 6, 2014 meeting the LEA notified the City the issues that the post closure land use plan must address were: (note that a different font is used for text quoted from State Regulations to make the distinction clearer)

Section 20750 is presented below for reference:

Section 20750. CIWMB - Site Maintenance. (T14:Sections 17695, 17696)

The operator shall implement a preventative maintenance program to monitor and promptly repair or correct deteriorated or defective conditions with respect to requirements of the CIWMB standards, and conditions established by the EA. All other aspects of the disposal site shall be kept in a state of reasonable repair.

Section 21190 is presented below for reference:

21190. CIWMB - Postclosure Land Use. (T14:Section 17796)

- (a) Proposed postclosure land uses shall be designed and maintained to:
- (1) protect public health and safety and prevent damage to structures, roads, utilities and gas monitoring and control systems;
 - (2) prevent public contact with waste, landfill gas and leachate; and
 - (3) prevent landfill gas explosions.
- (b) The site design shall consider one or more proposed uses of the site toward which the operator will direct its efforts, or shall show development as open space, graded to harmonize with the setting and landscaped with native shrubbery or low maintenance ground cover.
- (c) All proposed postclosure land uses, other than non-irrigated open space, on sites implementing closure or on closed sites shall be submitted to the Enforcement Authority (EA), Regional Water Quality Control Board (RWQCB), local air district and local land use agency. The EA shall review and approve proposed postclosure land uses if the project involves structures within 1,000 feet of the disposal area, structures on top of waste, modification of the low permeability layer, or irrigation over waste.
- (d) Construction on the site shall maintain the integrity of the final cover, drainage and erosion control systems, and gas monitoring and control systems. The owner

or operator shall demonstrate to the satisfaction of the EA that the activities will not pose a threat to public health and safety and the environment. Any proposed modification or replacement of the low permeability layer of the final cover shall begin upon approval by the EA, and the RWQCB.

(e) Construction of structural improvements on top of landfilled areas during the postclosure period shall meet the following conditions :

- (1) automatic methane gas sensors, designed to trigger an audible alarm when methane concentrations are detected, shall be installed in all buildings;
- (2) enclosed basement construction is prohibited;
- (3) buildings shall be constructed to mitigate the effects of gas accumulation, which may include an active gas collection or passive vent systems;
- (4) buildings and utilities shall be constructed to mitigate the effects of differential settlement. All utility connections shall be designed with flexible connections and utility collars;
- (5) utilities shall not be installed in or below any low permeability layer of final cover;
- (6) pilings shall not be installed in or through any bottom liner unless approved by the RWQCB;
- (7) if pilings are installed in or through the low permeability layer of final cover, then the low permeability layer must be replaced or repaired; and
- (8) periodic methane gas monitoring shall be conducted inside all buildings and underground utilities in accordance with section 20933 of Article 6, of Subchapter 4 of this Chapter.

(f) The EA may require that an additional soil layer or building pad be placed on the final cover prior to construction to protect the integrity and function of the various layers of final cover.

(g) All on site construction within 1,000 feet of the boundary of any disposal area shall be designed and constructed in accordance with the following, or in accordance with an equivalent design which will prevent gas migration into the building, unless an exemption has been issued:

- (1) a geomembrane or equivalent system with low permeability to landfill gas shall be installed between the concrete floor slab of the building and sub-grade;

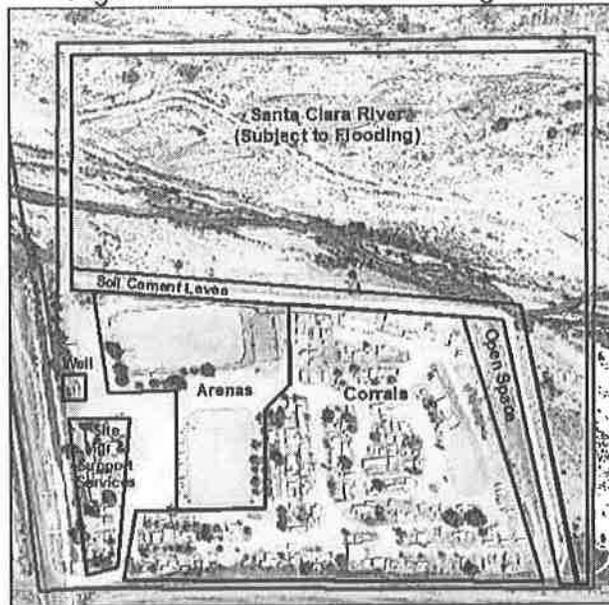
- (2) a permeable layer of open graded material of clean aggregate with a minimum thickness of 12 inches shall be installed between the geomembrane and the subgrade or slab;
- (3) a geotextile filter shall be utilized to prevent the introduction of fines into the permeable layer;
- (4) perforated venting pipes shall be installed within the permeable layer, and shall be designed to operate without clogging;
- (5) the venting pipe shall be constructed with the ability to be connected to an induced draft exhaust system;
- (6) automatic methane gas sensors shall be installed within the permeable gas layer, and inside the building to trigger an audible alarm when methane gas concentrations are detected; and
- (7) periodic methane gas monitoring shall be conducted inside all buildings and underground utilities in accordance with Article 6, of Subchapter 4 of this chapter (section 20920 et seq.).

5. DISCUSSION OF APPLICABLE PLAN COMPONENTS

The Plan Components as required by Section 21190 will be:

- a. Postclosure land use – The site has been minimally improved and has been used as an equestrian center for the boarding of horses for the past 36 years and that use is expected to continue into the foreseeable future. Should that use be discontinued, the site would most likely revert to non-irrigated open space. However, should any other more intensive land use be contemplated the City will seek regulatory review and approval before initiating that use.
- b. Site design – The site has minimal improvements at this time, basically one small step above open space as illustrated in Figure 2 below. By the very rural nature of its use, the site harmonizes in all respects with the setting and harmonizes with the surrounding land uses.

Figure 2 – Land Use of Existing Site



- c. Plan submittal to regulatory authorities – The present land use of the site has been unchanged for 36 years and as noted above, predates the current extensive solid waste regulations on closure and post closure in California. Because of this the City does not plan to submit the site use for review by the regulatory authorities cited unless a future change in land use is contemplated.
- d. Construction on the site – The present use of the site has not significantly impacted the integrity of the cover material. The present soil cement levee constructed in 2006 on the north and east sides of the site provide far better erosion control than was available historically. There is a concrete lined drainage channel on the west side of the site that was constructed by CalTrans as part of a SR-23 improvement project to replace the bridge across the Santa Clara River. On the South side of the site there is an earthen berm estimated to be 4+ feet high separating the site from the adjacent agricultural lands.
- e. Construction of structures – Sub-item (1) requires the installation of automatic methane gas sensors.

LEA Advisory #56 dated November 4, 1998 provides in pertinent part:

“A burn dump is a site where solid waste has been burned at low temperature and the residual burn ash and debris have been landfilled or stockpiled.”

“Burn dumps typically contain little biodegradable organic material because of the combustion of waste materials and the age of the sites. Therefore, typically little or no landfill gas is being generated at burn dump sites.”

The horse shelters currently in use at the site are frequently three sided structures with an abundance of wind driven ventilation that does not trap the prevailing morn-

ing and afternoon breezes at the site. Based on the City Engineer's review, the nature of these structures is a passive venting system that makes it very difficult, if not impossible, for methane gas to be collected, if any were ever generated, and thus pose a safety or explosion hazard. Other existing structures at the site (mobile home, storage sheds, etc.) are raised above the site surface on skids or more formal arrangements (substructures) that can place the floor of the structure as much as 18" or 24" above the site surface. Based upon City Engineer's review, typically these substructures are screened with corrugated metal or wooden screening that is very open to the morning and afternoon prevailing breeze and cannot trap landfill gas, if any is ever produced. Therefore, the City will not install automatic methane gas sensors in these structures.

The inspection report takes note of a new hay storage shed (red in the picture accompanying the inspection report) on the site. Based upon the City Engineer's review, the shed has a pitched roof of 2 x 4 rafters that are topped with corrugated metal. The eave space between the top of the walls and the top of the rafters is open to the prevailing morning and afternoon breezes would most likely prevent the accumulation of landfill gas if any were ever produced at the site. Therefore, the City will not require automatic methane gas sensors to be installed on this or similar structures.

The City does not believe automatic methane gas sensors are required for any structure at the site. However, as a precautionary measure the City will require that any new fully enclosed structures such as the red hay storage barn cited in the inspection report be raised above the closed dump surface or be fitted with an active ventilation mechanism such as the roof top wind driven rotary turbine vent shown below.



Sub-item (2) prohibits enclosed basement construction. No preset structure has an enclosed basement and the City will prohibit the construction of any enclosed basement construction in the future.

Sub-item (3) building construction requirements are addressed in the response to sub-item (1) above.

Sub-item (4) requires construction to account for differential settlement. Based upon the City Engineer's review, after 42 years since the last waste was received and burned at this open burn dump site, and following 36 years of use as an equestrian center with 1,000+ pound animals and vehicles traversing the site, it is judged that any significant differential settlement that might be expected has already occurred. The walls of the existing horse shelters are cosmetic in nature, not structural, and therefore will easily accommodate differential settlement, if any, that might occur in the future. The few utility wires that exist at the site are all overhead and will not be

affected by differential settlement. Any buried utility construction in the future will be required to use flexible utility connections and collars.

Sub-item (5) requires no construction of utilities be installed in or below any low permeability layer of cover material. The site was closed in accordance with all applicable closure regulations in place at the time of its closure in 1972, and it predates the development of the extensive closure regulations in place today for disposal sites; therefore, there is no low permeability cover material in place and this requirement is not applicable.

Sub-item (6) and (7) set forth requirements having to do with pilings and their interaction with the bottom liner and/or low permeability cover material. It is believed there are no pilings for any structure that may exist at the site today. The site predates the development of regulations addressing the closure of disposal sites; therefore, there is no bottom liner or low permeability cover material in place and this requirement is not applicable.

Sub-item (8) requires periodic methane gas monitoring be conducted inside all buildings and underground utilities. As described above in sub-items (1) and (5) there are no existing buildings or underground utilities that could collect methane gas. All new enclosed structures such as the red hay barn will be required to be on skids, or a substructure that elevates the structure above the ground surface. New habitable structures constructed at grade (not including mobile homes and similar structures constructed above grade) will be required to have active ventilation that will prevent the accumulation of methane gas, if any were ever produced at the site, therefore periodic methane gas monitoring will not be performed. The LEA may require structure monitoring for future construction if deemed warranted. Hence, any new land use plan submittals with proposed construction may be subject to these monitoring requirements.

- f. Additional soil layer – This regulation provides that an additional soil layer or building pad may be required to be placed on the cover material prior to any construction of structures at grade to protect the integrity and function of the various layers of cover material. The LEA will be contacted prior to any planned construction of habitable structures at grade to determine the applicability of this requirement.
- g. Construction within 1,000 feet of the boundary of site – All adjoining land on all sides of the site are County unincorporated area that will be reviewed by the County as part of any development proposed for those areas.

6. OTHER RELATED ISSUES

The City has had the same lessee at the equestrian center for many years; the lease arrangement had minimal requirements and supervision for compliance. However, that arrangement has been terminated and the City currently operates the site. It is planned to lease out the site going forward to a new lessee for operation. The basic requirements for site operation to eliminate deficiencies that have occurred in the past have been included in the new lease. Items of interest to the LEA include:

- a. Manure Accumulation and Removal – Because of the sites' use as an equestrian center, manure is generated. Currently this material is periodically (weekly) hauled away by the City for agricultural use as a fertilizer. Any site lessee will be required as part of the lease to continue the current practice of periodic manure removal.
- b. Uncontrolled Debris Dumping and Removal – The east end of the site is an open area where material that would be classified as vegetation and construction debris has been allowed to collect from time to time. Each time this happened in the past the City brought in a roll-off bin, loaded the material and hauled it to a legal disposal location. Since that area was posted with "No Dumping" signs, the instances of debris accumulation have ceased.

An area in the northwest corner of the site was cited for accumulation of trash and tree trimmings and therefore an illegal disposal site. The area has been cleaned up and the trash hauled away to a legal disposal location. No dumping signs will be posted in that area.

Finally, some areas at the rear of existing horse shelters along the south side of the site were allowed to accumulate weeds and debris. The weeds and debris have been cleaned up and hauled to a legal disposal location. The City will periodically monitor the site and see that solid waste is removed as necessary.

Any site lessee will be required as part of the lease to continue the current practice of posting "No Dumping" signs and removal of any dumped material to a legal disposal location. Further, as part of its supervision of any new site lease arrangement, the City will make quarterly inspections of the site specifically for compliance with the terms of the lease including the items identified in the February 12, 2014 inspection report as well as for any other requirements contained in the site lease. The City will periodically monitor the site and see that solid waste is removed as necessary.

- c. Plantings That Have Deep Root Structures – The usual concern with deep rooted plantings is that the roots will penetrate the bottom liner or low permeability cover material allowing water to enter the encapsulated material and leach harmful constituents or accelerate the production of methane gas, which, if uncontrolled, can become a hazard. As noted earlier, this site predates the development of regulations addressing the closure and post closure of disposal sites; therefore, there is no bottom liner or low permeability cover material in place. As a result it is believed that after 42 years with no encasement in a protective cocoon as required by current regulations, any decomposable waste that might have existed at the time of the open burn dumps' last use and thereby might have created landfill gas, has long ago decomposed and landfill gas generated, if any, has escaped through the very porous cover applied to the site at closure in 1972. There are numerous trees at the site in excess of 30 feet tall; their roots undoubtedly extend down through and beyond the buried ash, glass, metal and other non-decomposable materials that are buried at the site.
- d. Surface Drainage of Rain – The site has drainage swales that convey rainfall to more formal drainage structures. Generally, the slopes of these swales and drainage structures are minimal to provide for slow flow of rainfall and prevent any erosion of material from the site. Should areas develop that allow ponding of rainfall, an earth supply at the east end of the site can be used to fill the low spot and adjust the flow lines to eliminate future ponding of rainwater.

- e. Irrigation of Plants – A photo attached to the February 12, 2014 inspection report shows a row of small ornamental trees with a drip irrigation line to the base of each tree. The inspection report text notes “Submit a postclosure land use plan detailing on-site activities including construction and irrigation...” Prior responses have addressed the construction concerns. Although not clear in the written text, based on the photograph attached to the report the irrigation concern apparently is with irrigation of these trees. The City will periodically monitor the site as necessary to see that no excessive irrigation and/or ponding of water is taking place.

Although as noted before, this site was operated as an open burn dump, not a sanitary landfill, and its operation and closure predates the development of the extensive current regulations, a review of those regulations applied to sanitary landfills might be instructive in the matter of irrigation.

State Regulations at Section 21090, (a), (5), provides in pertinent part:

“(B) **Other Liquids** — The discharger shall moderate the application rate of liquids discharged to the cover for dust control, irrigation of the vegetative layer, or other non-disposal purpose in a manner that minimizes the potential for through flow to the underlying waste.”

This wording appears to allow moderate irrigation of plant life, as opposed to prohibiting any irrigation at all. Therefore, the City does believe the drip irrigation of the pictured trees is localized in nature and not a problem; the noted irrigation is believed to be moderate and therefore allowed. Further, minimal water is occasionally used at the site for dust control, particularly in the arenas, corrals and roadways. Excessive watering in these areas would turn them to mud and make them unusable for their intended purposes. These and other moderate uses of water will continue at the site.

APPENDIX A

CalRecycle

Closed Disposal Site Inspection Report (188)

Enforcement Agency:		County of Ventura	
SWS Facility File Number (P0-2H-0001)		Inspection Date	Program Code
60-CR-0016		2/12/2014	LEA Periodic
Time In		Time Out	Inspection Time
Facility Name		Received By	
Fillmore City/County 1972		City Of Fillmore	
Facility Location		Owner Name	
308 Chambersburg Road, Fillmore 93015		Fillmore Public Works, 260 Central Ave., Fillmore	
Inspector		Also Present (Name)	
Diane Wahl 805/654-5040		None	
<small>THE ABOVE IS TO NOT CONSTITUTE A TRAFFIC STOP OR ANY OTHER VIOLATION OF THE SPECIAL RULES FOR PUBLIC UTILITIES CODE, OR ANY OTHER STATE OR FEDERAL REGULATIONS.</small>			
No Violations or Areas of Concern			
V	A	Regulations	
	X	20760 - Site Maintenance	
<p>Comments: The operator shall implement a preventative maintenance program to monitor and promptly repair or correct deteriorated or defective conditions with respect to the requirements of the CWMB (i.e. CalRecycle) standards and conditions established by the LEA.</p> <p>The LEA observed solid waste in the form of greenwaste (apparently recent tree/plant clippings) on the northwestern portion of the solid waste disposal site, and in the form of discarded items (such as wood, metal, and discarded household-type items) along the southern edge of the property behind (south) of horse stables. Solid waste is to be properly disposed in waste containers provided on site or transported off site to an approved landfill for final disposition.</p>			
	X	21190 - Postclosure Land Use	
<p>Comments: Proposed construction on completed sites are to be submitted to the LEA, RWQCB, and local air district and land use agency for review and comment. The LEA must approve post closure land uses if the project involves structures located above or within 1,000 feet of waste, modification of the low permeability area, or irrigation of wastes.</p> <p>The LEA observed a new enclosed, wooden structure (shed) on the southeastern portion of the solid waste disposal site. The LEA did not receive advanced notice of intent to construct on or within 1,000 feet of this closed, illegal, or abandoned (CIA) waste disposal site nor approve the proposed construction.</p> <p>An irrigation line was observed on the northeastern portion of the site apparently for irrigation of ornamental trees. The LEA has not approved irrigation over waste at this CIA site.</p> <p>Submit a postclosure land use proposal detailing on-site activities including construction and irrigation no later than April 18, 2014.</p> <p>Proposed postclosure land uses shall be designed and maintained to: 1) protect public health and safety and prevent damage to structures, roads, utilities and gas monitoring and control systems; 2) prevent public contact with waste, landfill gas and leachate; and 3) prevent landfill gas explosions.</p>			
Inspection Report Comments:			
<p>The first quarter 2014 routine LEA inspection was performed February 12, 2014. The weather was clear, warm and with a slight breeze.</p> <p>The site use remains significantly unchanged since the last routine LEA inspection and is used as an equestrian center. The site contains riding arenas, stables, cattle pens, horse trailers, storage buildings and two mobile homes (raised above grade). No daylighting of waste was observed. The site is open to the public via an access road on the southwestern portion of the disposal site.</p> <p>See above for the noted areas of concern and corrective actions required.</p>			



